

## **Abstract**

The present invention provides a method and apparatus for determination of the quality of a formation fluid sample including monitoring permeability and mobility versus time to determine a filtrate contamination level, single phase state without gas and solids in the formation fluid, as it existed in the formation and the determination of laminar flow from the formation. The present invention also enables determination of an optimal pumping rate to match the ability of a subsurface formation to produce a single phase formation fluid sample in minimum time. The method and apparatus also detect pumping problems such as sanding and loss of seal with borehole.